

BELYAYEVA, K.G.

Diabetes and pregnancy. Akush. i gin. 34 no.6:6-11 N-D '58. (MIRA 12:1)

1. Iz otdela patologii beremennykh (zav. - dots. N.A. Panchenko)
Ukrainskogo nauchno-issledovatel'skogo instituta klinicheskoy meditsiny imeni akad. N.D. Strazhesko.

(DIABETES MELLITUS, in pregn.
progn. (Rus))

(PREGNANCY, in various dis.
diabetes mellitus, progn. (Rus))

L 42885-66 EWT(m)/EWP(j) RM

ACC NR: AP6020387 (A)

SOURCE CODE: UR/0192/66/007/001/0130/0131

AUTHOR: Belyayeva, K. F.; Poray-Koshits, M. A.; Mitrofanova, N. D.; Martynenko, L. I.

ORG: Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: X-ray structural study of neodymium nitrilotriacetate trihydrate ⁵¹_B

SOURCE: Zhurnal strukturnoy khimii, v. 7, no. 1, 1966, 130-131

TOPIC TAGS: neodymium compound, nitrogen compound, acetate, crystal structure analysis, electron density, x ray analysis

ABSTRACT: Data are presented on the lattice parameters of $GdX \cdot 4H_2O$ and $ErX \cdot 4H_2O$ (X = acid residue of nitriloacetic acid $(HOOCCH_2)_3N$), and preliminary data on the structure of one of the two modifications of $NdX \cdot 3H_2O$ (the so-called low-temperature modification, i. e., the trihydrate). $GdX \cdot 4H_2O$ crystals are colorless, well-faceted hexagonal pyramids. The Laue symmetry class is $6/mmm = D_{6h}$, the pycnometric density 2.31 g/cm^3 , and the lattice parameters $a = 10.3$, $c > 30 \text{ \AA}$. $ErX \cdot 4H_2O$ crystals belong to the rhombic system and are in the form of very fine rhombic prisms. The lattice parameters $a = 12.1$, $b = 21.5$, $c = 9.0 \text{ \AA}$, $d_{calc} = 2.40 \text{ g/cm}^3$. Space groups $Pna2_1$ and $Pnam$ are possible, and $N = 4$. The pale-lilac, well-faceted $NdX \cdot 3H_2O$ crystals belong to the rhombic system: $a = 13.21$, $b = 20.88$, $c = 8.12 \text{ \AA}$, $d_{meas} = 2.27$, $d_{calc} = 2.29 \text{ g/cm}^3$, $N = 8$. Space group P_{bca} . The atomic coordinates were determined from the

Card 1/2

UDC: 538.736.4

BELYAYEVA, I.V.

Nematode fauna of principal soil types in the Kara-Kalpak A.S.S.R.
Trudy Gel'm. lab. 9:49 '59. (MIRA 13:3)
(Kara-Kulpak--Nematoda) (Soil fauna)

A simplified equipment for ...

S/115/62/000/011/005/008
E194/E155

potentiometer is used, four couples can be checked at once, the other two positions being used to record the output of the reference couple and a zero signal. Recordings are made every 5 seconds, the next couple being connected 1 second after the recording is made; thus four seconds elapse before the next reading, which is sufficient to establish equilibrium. The furnace is supplied through a motorised autotransformer which covers the voltage range in half an hour. It is best to calibrate whilst the furnace is cooling, and so the voltage is reduced from maximum to zero over a period of 30 minutes during which time the temperature falls to about 600-700 °C. With direct measurement of the difference in e.m.f. it is recommended to calibrate no more than four thermocouples at once or no more than two thermocouples if comparison is made by electrodes. The maximum error of calibration of a platinum-rhodium-platinum thermocouple on the equipment is ± 5 microvolts in the range 300-1200 °C. The method of working out the records is explained. There are 3 figures.

Card 2/2

S/115/62/000/011/005/008
E194/E135

AUTHORS: Pak, Vanbo, Krinskiy, Yu.P., and Belyayeva, I.S.

TITLE: A simplified equipment for calibrating noble metal thermocouples under dynamic conditions

PERIODICAL: Izmeritel'naya tekhnika, no.11, 1962, 27-30

TEXT: The НГМИП (NGMIP) has developed a simple and reliable equipment for calibrating thermocouples under dynamic conditions. It uses a normal single-coordinate recording potentiometer; the thermocouples are connected by a standard selector switch, and a low-inertia 2 kW furnace is used. It is possible to measure the difference not only between the thermocouples under test and the reference thermocouple, but also the difference of e.m.f. between electrodes of the same material, and from these results the e.m.f. between platinum and platinum/rhodium thermocouples may be calculated. A schematic diagram of the equipment is given and the principles of operation are fully described. The only non-standard part of the equipment is a changeover switch vibrating at a frequency of 80 c/s and switching two capacitors in the circuit of the thermocouple under test. If a six-position recording

Card 1/2

1-800-845-48
1-800-845-48

the particular kind of vegetation, and

1-1-1992
100

Orig. mfr. has: 3 figures, 4 tables, and 2 equations.

ASSOCIATION	NAME	ADDRESS	CITY	STATE	ZIP
ORGANIZATION	(OPTIONAL)	STREET ADDRESS	CITY	STATE	ZIP

WILLIAMS & SON

201, 00

SECRET

012124 000

100

L 48996-65

ACCESSION NR: AF5611/03

green and leafless states). It was found that the coefficient of brightness depends on amount of green material. In the soil-grass system, the coefficient of brightness depends little on the height of the sun from 28 to 68°. When the amount of green material is slight (up to 2000-2500 kg/hectare), the coefficient of brightness changes almost linearly with increase in green material. With further increase in green material the linear relation is disturbed, and, beginning at 5500-6000 kg/hectare, the coefficient remains practically constant for all amounts. For raw cotton, the coefficient increases linearly with increase in cotton from 400 to 3000 kg/hectare. The coefficient is not affected by the amount of cotton for amounts less than 400 kg/hectare. When the difference in reflecting properties between soil and the particular vegetation is rather large, the connection between coefficient of brightness and amount of vegetation may be satisfactorily expressed by

$$R(m, p) = \frac{R(\infty)[R(\infty) - 1] + [R(\infty) - R(0)]e^{-\alpha m}}{[R(\infty) - 1] + R(\infty)[R(\infty) - R(0)]e^{-\alpha m}}$$

where m is the amount of vegetation per unit area, $R(0)$ is the reflectance of the soil, $R(\infty)$ is the reflectance of the plant cover, α is a constant characterizing

Card 2/3

[illegible]

HR/0050/55/000/008/0007/001
630,551,50

AUTHORS: B. I. Lavrenko, L. P. Babinchik, V. L. Slonikova, A. V.

Figure 1. The correlation between the coefficient of brightness in a soil-vegetation surface and the amount of vegetation.

SOURCE: *Ekologiya i priroda*, no. 8, 1965, 7-12.

TOUCH TONE: by phone, toll, money, reflected radiation

ABSTRACT. An attempt has been made to discover the relationship between the coefficient of brightness in a soil-vegetation system and the amount of vegetation, considering the optical properties of the components of the system. The coefficient of brightness was measured by means of a tubular photometer with a view angle of 35°. Measurements were made normal to the surface, air sand, spread in an even layer on plywood, was used as a standard. The procedure involved measuring first of the brightness of the standard, then the brightness of a selected segment of soil-vegetation, and then the standard again, repeated 3-4 times. The plant mass was then removed and weighed accurately (accuracy of ± 0.1 g). Types of vegetation included desert plants, pasture plants, wheat, and cotton (in both

Cont. 1/3

BELYAYEVA, I.P.

Calculation of tangential wind stress in different thermic stratification. Okeanologiya 5 no.2:206-209 '65.

(MIRA 18:6)

1. Leningradskiy gidrometeorologicheskii institut.

BELYAYEVA, I.P.

~~CONFIDENTIAL~~

Determining soil surface temperature under the cotton plants.
Trudy Sred.-Az.nauch.-issl. gidrometeor. inst. no.16:80-84 '63.
(MIRA 17:6)

BELYAYEVA, I.P.

Temperature conditions of a cotton field. Trudy Sred. Az.
nauch.-issl. gidrometeor. inst. no.11:146-151 '69.
(MIRA 16:11)

Calculation of the daily totals...

S/166/62/000/004/005/010
B112/B186

SUBMITTED: April 18, 1962

Card 3/3

Calculation of the daily totals...

S/166/62/000/004/005/010
B112/B186

s is the duration of sunshine in hrs according to the heliograph; a and c are the coefficients represented by the expressions

$$c = \cos^2(\alpha/2) + \sin^2(\alpha/2)(\Sigma R_h / \Sigma D_h) \quad (4)$$

$$\text{and } a = \pm((\Sigma Q_{\text{acc-incl}} / \Sigma Q_{\text{acc-h}})_{\text{clear}} - c) / s'_{\text{poss}} \quad (5)$$

$(\Sigma R_h / \Sigma D_h)$ is the albedo of the active surface on a cloudy day,

$(\Sigma Q_{\text{acc-incl}} / \Sigma Q_{\text{acc-h}})_{\text{clear}}$ is the relative daily total of accumulated radiation on an inclined surface in the course of a clear day, s'_{poss} is the possible duration of sunshine during the day). The daily total of radiation accumulated on an inclined surface during a cloudy day can be calculated from the formula $Q_{\text{acc-incl}} = Q_{\text{acc-h}}(c \pm as)$, where s is the duration of solar irradiation in hrs according to the heliograph whilst a and c are coefficients computed by (4) and (5). There are 2 figures and 6 tables.

ASSOCIATION: Sredneaziatskiy n.-l. gidrometeorologicheskii institut
(Central Asian Hydrometeorological Scientific Research
Institute)
Card 2/3

3.5150

S/166/62/000/004/005/010
B112/B186

AUTHOR: Belyayeva, I. P.

TITLE: Calculation of the daily totals of accumulated (meteor-term) radiation striking inclined surfaces on cloudy days

PERIODICAL: Akademiya nauk Uzbekskoy SSR. Izvestiya. Seriya fiziko-matematicheskikh nauk, no. 4, 1962, 38 - 46

TEXT: The effect of cloudiness on the relative daily totals $\Sigma Q_{\text{acc-incl}} / \Sigma Q_{\text{acc-h}}$ where the subscripts denote "inclined" and "horizontal" respectively is especially marked in winter, spring, and fall, because these are the seasons of maximum difference between the incidence of radiation on inclined and on horizontal surfaces. The relative daily totals depend not only on the quantity but also on the shapes of the clouds which have prevailed during the day. The effect of low clouds is especially strong when more than half the sky is covered with clouds. The daily total of radiation accumulated on an inclined surface during cloudy day can be calculated from the formula $\Sigma Q_{\text{acc-incl}} = \Sigma Q_{\text{acc-h}} (c \pm as)$. Here

Card 1/3

BELYAYEVA, I.P.

Results of measurements of the albedo of a mountainous region from a
helicopter. Trudy Sred.-Az.nauch.-issl. gidrometeor. inst. no.18:48.
55 '64. (MIRA 17:10)

BELYAETVA, I.P.

Annual movement of total radiation fluxes on an inclined
plane. Izv. AN Uz. SSR. Ser. fiz.-mat.nauk no.5:38-45 '61.
(MIRA 14:10)

1. Sredneaziatskiy gidrometeorologicheskii institut.
(Uzbekistan--Solar radiation)

YAKUBOVICH, A.Ya.; SERGEYEV, A.P.; BELYAYEVA, I.N.


Direct fluorovinylation. Dokl. AN SSSR 161 no.6:1362-1364 4p '65.
(MIRA 18:5)

1. Submitted October 26, 1964.

Flows of reflected ...

S/169/62/000/001/041/083
D228/D302

diation, incident during the day on eastern and western slopes, does not depend on slope steepness (when the steepness does not exceed 40°). It is established that the magnitude of reflected radiation entering upon slopes with little steepness may be disregarded when the ground has a reflecting capacity of up to 34%. In the case of steeper slopes (more than 20°) isotropically approximated formulas are proposed for calculating the daily radiation totals. [Abstractor's note: Complete translation.]



Card 2/2

S/169/62/000/001/041/083
D228/D302

AUTHOR: Belyayeva, I. P.
TITLE: Flows of reflected and scattered radiation on slopes
PERIODICAL: Referativnyy zhurnal, Geofizika, no. 1, 1962, 15, abstract 1B120 (Tr. Gl. geofiz. observ., no. 107, 1961, 105-111)

TEXT: The results of measuring reflected and scattered radiation upon slopes on clear days in September 1959 in the vicinity of the Golodnaya Steppe are considered; these were carried out by means of a thermoelectric pyranometer, fastened to a theodolite, with a screen and special apparatus for shading the reception part from the influence of radiation reflected by a horizontal surface (a ring). The device slopes at different angles to the horizon and is oriented according to four main bearings with the aim of ascertaining the patterns of slope irradiation. It is noted that on clear days direct and scattered radiation plays a leading role in the incidence of short-wave radiation upon a slope. Scattered ra-

Card 1/2

YAKUBOVICH, A.Ya.; BELYAYEVA, I.N.

Methylolhalomalonates. Zhur.ob.khim. 31 no.7:2119-2122 J1 '61.
(MIRA 14:7)
(Malonic acid)

82678

Synthesis of Vinyl Monomers. 11. The Synthesis S/079/60/030/008/001/008
of α -Chlorohydroacrylates and α -Chloroacrylates B004/B064

by heating I with sodium bisulfate. Phenyl- α -chloroacrylate (6) by addition of triethyl amine solved in benzene to phenyl- α,β -dichloropropionate solved in benzene, filtering off of the triethyl amine hydrochloride precipitate, distilling off of benzene and the excessive triethylamine, fractionating the residue in the presence of phenyl- β -naphthyl-amine (yield 49%). In 6 the authors found the refractive index n_D^{20} to be 1.5325. They consider this value to be more correct than that of 1.5808 given in Ref. 3. There are 4 non-Soviet references. ✓

SUBMITTED: July 31, 1959

Card 2/2

BELYAYEVA, I. N.

82678

5.3831

S/079/60/030/008/001/008
B004/B064AUTHORS: Yakubovich, A. Ya., Bogoslovskiy, N. A., Pravova, Ye. P.,
Belyayeva, I. N., Razumovskiy, V. V.TITLE: Synthesis of Vinyl Monomers. 11. The Synthesis of
 α -Chlorohydroacrylates and α -Chloroacrylates 9PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 8,
pp. 2496 - 2498

TEXT: The authors report on the following syntheses: α -chloro- β -hydroxy propionitrile (1) from aqueous solution of acrylonitrile by introduction of chlorine gas at 16°C. The compound was extracted with ether. Yield: 38.5%. α -chloro- β -acetoxy propionitrile (2) from 1 by heating with acetic anhydride and sodium acetate over the water bath (yield 55.8%). Methyl- α -chloro- β -hydroxy propionate (3) by chlorinating methyl acrylate (yield 23.5%). Methyl- α -chloroacrylate (4) a) by dropping 3 into a mixture of H_2SO_4 and Cu_2Cl_2 (yield 74%) heated to 125-130°C; b) by dropping 3 into a mixture of P_2O_5 and Cu_2Cl_2 (yield 64%). α -chloroacrylonitrile (5)

Card 1/2

The Synthesis of Vinyl Monomers. 79-28 -3-25/61
III. Note on the Synthesis of Compounds With a Carbonyl Group.

There are 12 references, 4 of which are Soviet

SUBMITTED: January 24, 1957

Card 3/3

The Synthesis of Vinyl Monomers.

79-28-3-25/61

III. Note on the Synthesis of Compounds With a Carbonyl Group

that the reaction with the hydrochlorine of diethylamine takes place considerably slower and that the yield of the hydrochlorine of dialkylaminopropiophenon is smaller than with the use of the hydrochlorine of dimethylamine (63 to 75,5 % correspondingly). Phenylisopropylene ketone was synthesized from the hydrochlorine of dimethylaminomethylpropriophenon. It turned out that propiophenon and paraformaldehyde do not react with the hydrochlorine of diethylamine. According to Mannich also the 2,5-dichlorophenylketone was synthesized anew. The 2,5-dichloroacetophenon and its paraform react only little with the hydrochlorine of diethylamine; easier, however, with that of dimethylamine. The ketone obtained here easily polymerizes in the distillation, even in vacuo and in the presence of an inhibitor. In publications referring to the most simple unsaturated aldehydes, the acroleine and methacroleine, only patent data are known on the synthesis of the oximes of these aldehydes. The authors synthesized in a new way the oxime of macroleine by reaction of the meta-macroleine with hydroxylamine (yield 65 %).

Card 2/3

AUTHORS: Yakubovich, A. Ya., Razumovskiy, V. V., 79-28-3-25/61
Belyayeva, I. N.

TITLE: The Synthesis of Vinyl Monomers (Sintezy vinilovykh monomerov).
III. Note on the Synthesis of Compounds With a Carbonyl Group (III. Zamechaniye k sintezu soyedineniy s karbonil'noy gruppoy)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 3, pp. 680-682 (USSR)

ABSTRACT: There are hints that in certain cases an easy course of the Mannichs reaction depends on the nature of the used base. Thus Levy and Nisbet (ref. 1) noted that 2-acetylfurfuran and formaldehyde enter into reactions with salts of dimethylamine and dipropylamine but never with a salt of diethylamine. Mannich and Heilner (ref. 2) described the synthesis of the phenylvinylketone when using the hydrochloride of dimethylamine. Joung and Roberts obtained the same ketone with the hydrochlorine of diethylamine. The authors synthesized the phenylvinylketone with the same salts; they found however,

Card 1/3

L 45720-66

ACC NR: AP6025698

ance of the liquid phase, indicating that the reactions in these systems cannot be classified as solid-phase reactions. It was found that the equilibrium in the system $3\text{ZnTiO}_3 + \text{Pb}_3(\text{PO}_4)_2 \rightleftharpoons 3\text{PbTiO}_3 + \text{Zn}_3(\text{PO}_4)_2$ at low temperatures is displaced toward the formation of zinc titanate and lead phosphate, and at 800 °C to the side of lead titanate and zinc phosphate. Orig. art. has: 4 figures and 2 tables.

SUB CODE: 07/ SUBM DATE: 30Jul65/ ORIG REF: 003/ OTH REF: 001

Card 2/2 *UL*

L 45/20-66 EWP(m)/T/EWP(t)/ETI T/P(c) ID

ACC NR: AP6025698

SOURCE CODE: UR/0078/66/011/005/1183/1188

AUTHOR: Belyayev, I. N.; Aver'yanova, L. N.; Belyayeva, I. I.

ORG: none

TITLE: Solid-phase reactions of divalent metal titanates

SOURCE: Zhurnal neorganicheskoy khimii, v. 11, no. 5, 1966, 1183-1188

TOPIC TAGS: titanate, sulfate, phosphate

ABSTRACT: X-ray diffraction analysis was used to study the solid-phase reactions in the systems $\text{MeTiO}_3\text{-PbSO}_4$ and $\text{MeTiO}_3\text{-Pb}_3(\text{PO}_4)_2$, constituting diagonal sections of the ternary reciprocal systems $\text{Me,Pb} \parallel \text{TiO}_3, \text{SO}_4(\text{PO}_4)$, where $\text{Me} = \text{Mg, Ca, Sr, Ba, Zn, Cd}$, in the 600-1000°C range. It was found that in these ternary systems, where $\text{Me} = \text{Ca, Sr, Ba}$, and also in the $\text{Mg,Pb} \parallel \text{TiO}_3, \text{PO}_4$ system at 700-1000°C, in the course of 20 hr, a substantial displacement of the equilibria $\text{MeTiO}_3 + \text{PbSO}_4(\text{PO}_4) \rightleftharpoons \text{PbTiO}_3 + \text{MeSO}_4(\text{PO}_4)$ takes place to the right, i. e., to the side of a pair of salts in which a cation with an 18+2 electron shell (Pb) combines with an anion containing an atom with an unfilled d subshell (Ti). Thus, all the indicated reactions are irreversible and reciprocal with stable salt pairs $\text{PbTiO}_3 + \text{MeSO}_4(\text{PO}_4)$. Because of the presence of the exchange product (lead titanate) and original titanate (MeTiO_3) in the calcined samples, the systems $\text{Zn,Pb} \parallel \text{TiO}_3, \text{SO}_4$, $\text{Cd,Pb} \parallel \text{TiO}_3$, and also $\text{Mg,Pb} \parallel \text{TiO}_3, \text{SO}_4$ are irreversible and reciprocal. The appearance of the exchange product in them coincides with the appear-

Card 1/2

UDC: 546.824:541.124-16

L 2287-66

ACCESSION NR: AP5022273

2
 $2\text{PbHfO}_3 \cdot \text{PbWO}_4$ is formed. The compounds observed have pyrochlore-type crystal lattices, and the unit cells are expressed by the formulas $\text{Pb}_2(\text{Sn}_{1.5}\text{W}_{0.5})\text{O}_{6.5}$ and $\text{Pb}_2(\text{Hf}_{1.33}\text{W}_{0.66})\text{O}_{6.6}$ with constant A equal to 10.52 and 10.66 Å, respectively. In the " PbSnO_3 " - PbMoO_4 system at 600-900C and compacting pressure (preceding the firing) of 50 kg/cm² and in the PbHgO_3 - PbMoO_4 system at 800C and a compacting pressure of 100 kg/cm², no chemical reactions are observed. Orig. art. has: 1 figure and 3 tables.

ASSOCIATION: Rostovskiy-na-Donu gosudarstvennyy universitet (Rostov-on-Don State University)

SUBMITTED: 24Mar65

ENCL: 00

SUB CODE: IC, G-C

NO REF SOV: 009

OTHER: 003

Card 2/2 *DP*

L 2287-66 EWP(e)/EWT(m)/T/EWP(t)/EWP(k)/EWP(z)/EWP(b)/EWA(c) LJP(c) JD/JC

ACCESSION NR: AP5022273

UR/0363/65/001/007/1184/1188
541.123.2

AUTHOR: Belyayev, I. N.; Avar'yanova, L. N.; Belyayeva, I. I.

TITLE: X-ray phase study of the systems "PbSnO₃" - PbWO₄, "PbSnO₃" - PbMoO₄, PbHfO₃ - PbWO₄, and PbHfO₃ - PbMoO₄.

SOURCE: AN SSSR. Izvestiya. Neorganicheskiye materialy, v. 1, no. 7, 1965, 1184-1188.

TOPIC TAGS: ²⁷lead compound, ²⁷tin compound, ²⁷tungsten compound, ²⁷molybdenum compound, ²⁷hafnium compound, ferroelectric material

ABSTRACT: The paper continues a study of the nature of solid-state reactions in systems involving ferroelectrics and antiferroelectrics. The pressed and sintered samples were analyzed by X-ray powder techniques. It was found that in the "PbSnO₃" - PbWO₄ system (where "PbSnO₃" is a mixture of 50 mole % PbO and 50 mole % SnO₂), the compound 3PbSnO₃·PbWO₄ is formed at 700-900C. At 900C, the compound begins to decompose into the original components. In the PbHfO₃ - PbWO₄ system, if the pressing preceding the sintering is carried out under a pressure of no less than 100 kg/cm² and the firing temperature is 800-1000C, the compound

Card 1/2

BELYAYEV, I.N.; AVER'YANOVA, I.N.; BELYAYEVA, I.I.

X-ray and dilatometric studies of the systems $PbZrO_3$ - $PbWO_4(MoO_4)$.
Izv. AN SSSR. Neorg. mat. 1 no.3:392-394 Mr '65.

(MIRA 18:6)

I. Rostovskiy gosudarstvennyy universitet.

ACCESSION NR: AP4024996

ASSOCIATION: Rostovskiy-na-Donu gosudarstvennyy universitet (Rostov-on-Don State University)

SUBMITTED: 26Jun63

DATE ACQ: 16Apr64

ENCL: 02

SUB CODE: PH

NO REF SOV: 002

OTHER: 003

Card

2/42

ACCESSION NR: AP4024996

S/0070/64/009/002/0280/0281

AUTHORS: Belyayev, I. N.; Aver'yanova, L. N.; Belyayeva, I. I.

TITLE: New compounds with the structure of pyrochlore

SOURCE: Kristallografiya, v. 9, no. 2, 1964, 280-281

TOPIC TAGS: pyrochlore, lead, cadmium, titanium, zirconium, tin, tungsten, solid phase, cubic structure, defect, oxygen, x ray characteristic

ABSTRACT: The authors have presented data on new compounds having the general formula $A_2(B_{2-x}B'_x)O_{6+x}$, where A represents ions of Pb and Cd; B ions of Ti, Zr, and Sn; and B' the hexavalent ion of W. These compounds were synthesized by solid-phase reactions. The x-ray characteristics of hkl lines are shown in Table 1 on the Enclosures. From these it may be seen that all the synthesized compounds have the cubic structure of pyrochlore with defects about oxygen. The authors point out that attempts to replace the W ion by Mo and the Pb or Cd ion by other bivalent metals have not yet been successful. Orig. art. has: 2 tables.

Card: 1/42

SOV/69-21-4-2/22

Precipitation of Artificial Fogs

of comparison, curve 2 shows the precipitation of red phosphorus. The phosphorus was burnt in a small electric furnace, which had been substituted to the radioactive source. On the whole, the experiments have shown that the treatment of common moist air with ionizing rays increases the number and size of the particles of its disperse phase. As a result of this the formation of fog can be observed. Fog formation and precipitation during ray treatment continue without interruption and with constant speed. The quantity of precipitated fog and its dispersion are dependent on the intensity and duration of ray treatment. There is 1 set of photographs, 2 diagrams, 1 graph and 3 Soviet references.

ASSOCIATION: Institut goryuchikh iskopayemykh AN SSSR, Moskva
(Institute of Mineral Fuels of the AS USSR, Moscow)

SUBMITTED: 5 February, 1958.

Card 3/3

SOV/69-21-4-2/22

Precipitation of Artificial Fogs

of treatment with α and β particles, become more or less dispersed in dependence on the duration of the treatment. Photographs 7-10 (treatment with γ -quanta Co 60) show that the dispersion of the precipitation depends on the intensity of ray treatment. The higher the intensity the greater the number of droplets and their size. In order to investigate the precipitation process also with regard to time, the authors developed a quartz microbalance suitable for this purpose. The balance was put into a cylindrical glass vessel (volume = 4.4 l). The measurements were carried out with a horizontally installed microscope. Prior to the introduction of a radioactive source (α -particles) no deformation of the quartz thread with the plate for the precipitate could be observed. After introduction of the source fog formed and precipitated on the plate. The results of the experiments are illustrated by a graph (Figure 4). Curve I shows that the fog precipitates continuously during the ray treatment of the air. For the sake

Card 2/3

5(4)

SOV/69-21-4-2/22

AUTHOR: Belyayeva, I.I. and Smirnov, N.S.

TITLE: Precipitation of Artificial Fogs

PERIODICAL: Kolloidnyy zhurnal, 1959, Vol XXI, Nr 4, pp 385-387 (USSR)

ABSTRACT: The authors report on the results of an investigation of the precipitation of artificial fogs. The article continues former publications of the authors (references 1 and 2), in which they describe the formation of these fogs by means of treatment of common air (relative humidity not exceeding 100%) with ionizing rays. The precipitation was carried out with the aid of α and β particles and γ -quanta Co 60. For the first series of experiments, the authors used the device described in figure 2. For the second and third series, cylindrical glass vessels (volume=4.4 l) were used. With the introduction of a radioactive source, fog development could be observed. Fog droplets precipitated on small thin glass plates. The precipitation was microphotographed (Figure 1). Photographs 1-6 show that precipitation formed as a result

Card 1/3

BELYAYEVA, I. I.

"The Effect of Air Ionization on the Disperse Phase of Aero-colloids," by I. I. Belyayeva, A. Ye. Mikirov, and N. S. Smirnov, Geophysics Institute Academy of Sciences USSR, Moscow Kolloidnyy Zhurnal, Vol 19, No 1, Jan/Feb 57, pp 24-26

The formation of aerocolloids (fogs) as the result of bombarding air of 100% humidity with alpha-particles has been described. The scattering capacity of the fogs has been measured and it has been shown to depend upon the radioactivity of the source and the duration of the irradiation. The stability of the fogs has been measured using an optical method.

Increasing the ionization of air (the dispersion medium) increases the concentration of submicroscopic particles (condensation nuclei) and the ultramicroscopic fraction of the disperse phase of the aerocolloid and leads to the formation of visible fog. The rate of the process of formation of similar aerocolloids depends on the activity of the source of ionizing radiation, and hence on the rate of formation and concentration of ions of the dispersion medium. Similar fogs are stable and increase the light scattering capacity by 12-40%, depending on the activity of the source and the duration of irradiation. (U)

S4M.13 45

KASHERININOV, G.O.; LEVINSKIY, M.I.; STANKEVICH, V.A.; KOVTUN, T.D.;
BELYAYEVA, I.I.; POPOV, Ye.I.; SMIRNOV, N.S.; SHAKHTAKHTINSKIY,
M.G.; KULIYEV, A.A.

Brief reports. Zav.lab. no.11:1403-1404 '59. (MIRA 13:4)

1. Institut Gipronikel' (for Kasherininov). 2. Institut goryu-
chikh iskopayemykh (for Belyayeva, Popov Smirnov). 3. Institut
fiziki i matematiki Akademii nauk Azerbaydzhanskoj SSR (for
Shakhtakhtinskiy, Kuliyeu).
(Chemical apparatus)

X-ray phase analysis of...

S/078/62/007/006/023/024
B110/B144

pressed into tablets, and heated. Well-sintered refractory material was obtained from 50-75 mole% titanate, by annealing at 1000-1280°C for 4-15 hrs. A YPC-70-K-1 (URS-70-K-1) apparatus in PKA (RKD) chambers was used for the radiographic analyses under unfiltered Fe and Cu-K_α radiation.

Results: Mixtures of the initial substances were found, but neither compounds nor solid solutions; this indicates the presence of simple, eutectic systems alone. There is 1 table.

SUBMITTED: November 10, 1961

Card 2/2

S/078/62/007/006/023/024
B110/B144

AUTHORS: Belyayev, I. N., Aver'yanova, L. N., Belyayeva, I. I.

TITLE: X-ray phase analysis of $\text{MeTiO}_3\text{-MeWO}_4(\text{MoO}_4)$ systems

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 7, no. 6, 1962, 1476

TEXT: The systems $\text{MgTiO}_3\text{-MgWO}_4$, $\text{CaTiO}_3\text{-CaWO}_4$, $\text{SrTiO}_3\text{-SrWO}_4$, $\text{BaTiO}_3\text{-BaWO}_4$, $\text{ZnTiO}_3\text{-ZnWO}_4$, $\text{MgTiO}_3\text{-MgMoO}_4$, $\text{CaTiO}_3\text{-CaMoO}_4$, $\text{SrTiO}_3\text{-SrMoO}_4$, $\text{BaTiO}_3\text{-BaMoO}_4$, and $\text{ZnTiO}_3\text{-ZnMoO}_4$ were subjected to qualitative radiographic phase analyses. MgTiO_3 and ZnTiO_3 were prepared from TiO_2 and the corresponding metal oxides by sintering at 1280°C for 15 hrs; SrWO_4 was prepared from solutions of Sr acetate and Na_2WO_4 ; ZnWO_4 from the oxides sintered at 1280°C for 15 hrs; MgMoO_4 and ZnMoO_4 from the corresponding oxides by sintering with MoO_3 at 1000°C for 15 hrs; SrMoO_4 from SrCO_3 and MoO_3 ; the other compounds were commercial products. These materials were ground,

Card 1/2

BELYAYEV, I.N.; AVER'YANOV, I.N.; BELYAYEVA, I.I.

X-ray phase-shift study of the systems $Pb(NO_3)_2 - PbO_2$ -
 $PbMoO_4$, $PbHfO_3$ - $PbWO_4$, $PbMgO_3$ - $PbMoO_4$. Izv. AN SSSR.
Neorg. mat. 1 no.7:1184-1188 71 '65. (MIRA 1809)

1. Rostovskiy-na-Donu gosudarstvennyy universitet.

ACC NR: AP7007081

the effective atmospheric depth of 200 g/cm^2 , calculations must be carried out with greater statistical precision. When results of the theoretical calculations on characteristics of broad atmospheric showers at 1240 g/cm^2 become available, the experimental data reported will be useful for the determination of the composition of primary cosmic radiation in the superhigh-energy range. Orig. art. has: 5 figures, 2 formulas and 1 table. [JPRS: 39,658]

Card 2/2

ACC NR: A17007081

SOURCE CODE: UR/0048/66/030/010/1685/1689

AUTHOR: Vernov, S. N.; Khristiansen, G. B.; Abrosimov, A. T.; Atrashkevich, V. B.; Belyayeva, I. F.; Vedenoyev, O. V.; Kulikov, G. B.; Nechin, Yu. A.; Solov'yeva, V. I.; Pomin, Yu. A.; Khrenov, B. A.

ORG: none

TITLE: Phenomenological characteristics of broad atmospheric showers with a fixed number of μ -mesons and electrons /Paper presented at the All-Union Conference on Cosmic Radiation Physics, Moscow, 15-20 Nov 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 10, 1966, 1685-1689

TOPIC TAGS: mu meson, cosmic radiation

SUB CODE: 20

ABSTRACT: In an earlier work by Vernov et al (Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 29, 1676, 1965), results obtained in a study at an installation of Moscow State University on broad atmospheric showers with zenith angles of $0-30^\circ$ were reported. These results included the distribution of showers with a fixed number of electrons N_e with respect to the number of high-energy mesons N_μ and the age parameter S , distribution of showers with a fixed N_μ with respect to N_e and S , and the coefficients of the correlation between S and the fluxes of electrons and μ -mesons. In the work reported in this instance, the same relations were determined for broad atmospheric showers with zenith angles of $30-45^\circ$. The fluctuations of N_μ , S , and N_e , observed for an effective atmospheric depth of 1240 g/cm^2 , were the same as those for vertical showers established in the earlier work. To determine the differences due to an increase in

Card 1/2

L 25772-66

ACC NR: AP6016380

at the observation level. An averaged function $\rho_{\mu}(R)$ is plotted to determine the spatial distribution N_{μ} of the muons, and, thus, the total number of these muons is determined. The distribution of N_e for a given N_{μ} is evaluated on the basis of data on an e.a.s. with $N_{\mu} = (1-2) \cdot 10^4$. The experimental findings are found to be in satisfactory agreement with theory. Thus, on the basis of the complex whole of the experimental findings, it may be concluded that the composition of primary cosmic rays in the superhigh-energy region apparently does not significantly differ from the composition in the low-energy region, and the γ -index of the primary energy spectrum is variable rather than constant. Orig. art. has: 5 figures. [JPRS]

SUB CODE: 20, 04 / SUM DATE: none / ORIG REF: 009 / OTH REF: 002

Card 2/2 CC

L 25772-66 - EWT(m)/FCC/T IJP(c)

ACC NR: AP6016380

SOURCE CODE: UR/0048/65/029/010/1876/1880

AUTHOR: Vernov, S. N.; Khristiansen, G. B.; Abrosimov, A. T.; Atrashkevich, V. B.;
Belyaveva, I. F.; Kulikov, G. V.; Solov'yeva, V. I.; Fomin, Yu. A.; Khrenov, B. A.

ORG: Scientific Research Institute of Nuclear Physics, Moscow State University im.
M. V. Lomonosov (Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo
gosudarstvennogo universiteta)

TITLE: Primary superhigh-energy cosmic radiation according to data on extensive
atmospheric showers

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 10, 1965, 1876-1880

TOPIC TAGS: cosmic radiation, muon

ABSTRACT: Of interest in the investigation of the primary energy spectrum of cosmic rays and their composition is the knowledge of the spectrum of extensive atmospheric showers (e.a.s.) with respect to the total number N_{μ} of high energy muons ($E_{\mu} \geq 10^{10}$ eV) and the distribution of e.a.s. over the total number of the particles N_e for a given N_{μ} . In this connection the authors analyze the primary energy spectrum of cosmic rays on the basis of experimental data obtained with a special device for investigating e.a.s. recorded with a probability of $W \geq 0.95$. This device makes it possible to determine the total number of charged particles in an e.a.s.

Card 1/2

L 19830-56 EST(m)/SCC/T 13P(c) SD-2
 ACC NR: AP6018853 SOURCE CODE: UR/0367/65/002/006/1075/1086

AUTHOR: Vernov, S. N.; Belyayova, I. F.; Vedeneyev, O. V.; Dmitriyev, V. A.;
 Nechin, Yu. A.; Khristiansen, G. B.

ORG: Institute of Nuclear Physics, Moscow State University (Institut yadernoy fiziki
 Moskovskogo gosudarstvennogo universiteta)

TITLE: Fluctuations of the energy fluxes of the nuclear-active and electron-photon
 components in extensive air showers. [This paper was given at the 14th Annual Conference
 on Nuclear Spectroscopy, Tbilisi, February 1964]

SOURCE: Yadernaya fizika, v. 2, no. 6, 1965, 1075-1086

TOPIC TAGS: extensive air shower, electron, photon

ABSTRACT: Experimental data are given on the fluctuations of the energy flux of the
 nuclear-active and electron-photon components in extensive air showers and on the
 connections of these fluctuations with each other and with fluctuations of the age
 parameter s. It is shown that the bulk of these data disagrees with the model described
 by Nymrik and Shestoporov (Materials on the All-Union Conference, Apatites, 1964).
 The large role of the parameter s and other characteristics for the correct setting-up
 of experiments concerning extensive air-showers are discussed. Orig. art. has: 10
 figures and 3 tables. [Based on authors' Eng. abst.] [JPRS]

SUB CODE: 03 / SUBM DATE: 23Apr65 / ORIG REF: 014 / OTH REF: 003

Card 1/1 115

VERNOV, S.N.; KRISTIANSEN, G.P.; ANDRUSINOV, A.T.; ATRASHENICH, V.B.;
BELYAYEVA, I.F.; KULIKOV, G.V.; BOLOV'Yeva, V.I.; POMIN, Yu.A.;
KHRENOV, B.A.

Ultrahigh-energy primary cosmic radiation according to data on
extensive air showers. Izv. AN SSSR.Ser.fiz. 29 no.10:1876-1880
0 '65. (MIRA 18:10)

1. Nauchno-issledovatel'skiy institut yadernoy fiziki Moskovskogo
gosudarstvennogo universiteta im. M.V.Lomonosova.

L 4528-66

ACC NR: AP5024632

error in determining S was estimated to be 0.02 by processing "artificial" showers of known age, calculated by Monte Carlo methods. The data presented were derived from some 300 showers with total numbers of charged particles ranging from 10^5 to 4×10^6 . Histograms are given showing the distribution of showers with respect to N with fixed M, with respect to M with fixed N, with respect to S with fixed N, and with respect to S with fixed M, and scatter plots are given for N versus S with fixed M and for M versus S with fixed N. The correlation coefficient of S with M for fixed N ranged between 0.62 and 0.72; the correlation coefficient of S with N for fixed M was - 0.67. Orig. art. has: 10 formulas, 4 figures, and 1 table.

SUB CODE: NP/ SUBM DATE: 00/

ORIG REF: 005/ OTH REF: 001

OC

Card 2/2

L 4528-66 EWT(m)/FCC/T IJP(c)

ACC NR: AP5024632

SOURCE CODE: UR/0048/65/029/009/1676/1681

AUTHOR: Vernov, S.N.; Khristiansen, G.B.; Abrosimov, A.T.; Atrashkevich, V.B.;
Belyayeva, I.F.; Vedeneyev, O.V.; Kulikov, G.V.; Fomin, Yu. A.; Nechin, Yu. A.;
Solov'yeva, V.I.; Khrenov, B.A.

ORG: none

TITLE: Investigations of fluctuations in the development of extensive air showers
with a fixed total number of charged particles and a fixed total number of muons /Re-
port, All-Union Conference on Cosmic Ray Physics held at Apatity 24-31 August 1964/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 29, no. 9, 1965, 1676-1681

TOPIC TAGS: cosmic ray shower, muon, charged particle, extensive air shower, particle
distributic particle distribution

ABSTRACT: The authors have employed the modernized installation at Moscow State Uni-
versity, described elsewhere (S.N.Vernov et al., Izv. AN SSSR Ser. fiz., 28, 2087,
1964), to investigate the simultaneous distribution of total number N of charged par-
ticles, total number M of muons, and age parameter S in extensive air showers. Show-
ers were selected for which the zenith angle of the axis was less than 30°. M was de-
termined from the number of muons recorded by the muon detector and the perpendicular
distance of the muon detector from the shower axis with the aid of the known lateral
distribution of muons. The relative error in determining M did not exceed 35 %. The

Card 1/2

D 21189-68

ACCESSION NO: A75002 09

0.5 m^2 each which make it possible to determine the strength of a shower and the orientation of its axis in space. In the underground laboratory the area of the muon detector has been increased from 5 to 45 m^2 and there has been installed a new system of 240 ionization chambers shielded by an absorber, intended for statistical measurements of the energy of muon fluxes. The paper gives diagrams of some of the counter and chamber arrays and describes some of the specific design features of the detector and associated electronic equipment. A few typical curves are reproduced. The underground installation is characterized by an exceptionally large area, good continuity and a high resolution. Orig. art. has 1 table and 9 figures.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 01

SUB CODE: AA

NR REF SOV: 002

OTHER: 002

2/3

1 21189-65 EMI (S) 211(a)/TCC/T 137(6)

8/0048/64/023/012/2087/2092

AUTHOR: Vernov, S. N.; Kristiansen, G. B.; Abramov, A. T.; Atrashkevich, V. B.; Belya
yeva, I. F.; Vedeneyev, O. V.; Daitchayev, I. A.

TITLE: Description of the modernized complex installation for study of extensive
air showers. Report. All-Union Conference on the Physics of Cosmic Rays held in
Moscow 4-10 Oct 1964.

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 38, no. 12, 1964, 2087-2092

TOPIC TAGS: cosmic ray measurement 711

ABSTRACT: During the past two years the installation for comprehensive investiga-
tion of extensive air showers and high-energy muons has been greatly improved. The
installation is located at Moscow State University and covers an area of about 4
hectares (about 10 acres); it consists of a large number of stationary and mobile
"laboratories". The general layout is shown in the Figure (see Enclosure). In the
mobile "laboratories" (Nos. 7 through 18 in the figure) and in the stationary "la-
boratories" (1, 2 & 3) in the main building the old system of hodoscope counters
has been supplemented by an array of 20 scintillation counters with an area of

REF ID: A6501233
 APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R000204600020-6
 UR/0048/64/28/011/1886/1893
 AUTHOR: Yashin, E. A.; Khrushchinskii, G. B.; Khromov, A. T.; Poltavskiy, V. A.; Kuchera, G. V.; Kuchera, Yu. A.; Kuchera, V. I.; Kuchera, S. A.
 TITLE: New data on the study of broad atmospheric showers using a complex apparatus. Report of All-Union Meeting on Cosmic Ray Physics, held in Moscow from October 4 to 10, 1963.
 SOURCE: AN SSSR, Izvestiya. Seriya fiziko-matematicheskie nauki, v. 28, no. 11, 1964, 1886-1893
 TOPIC TAGS: cosmic ray showers; nuclear particle; nuclear physics apparatus
 ABSTRACT: Experiments are described that were conducted at Moscow State University on a complex apparatus for the study of broad atmospheric showers and the muon component of cosmic rays. The apparatus gave simultaneous information on the electron-photon, muon, and nuclear-active components of broad atmospheric showers in each individually recorded shower. Orig. art. has 9 graphs, 3 tables.
 ASSOCIATION: Nauchno-Issledovatel'skiy Institut yadernoy fiziki i kosmicheskoy fiziki (Scientific Research Institute of Nuclear Physics, Moscow State University)
 SUBMITTED: 00
 NO REF SOV: 003
 ENCL: 00
 OTHER: 006
 SUB CODE: AA, NP
 JPM
 Cont 1/1

Extensive air showers induced by ...

S/048/62/026/005/015/022
B102/B104

is determined for mesons with $E > 1 \cdot 10^{10}$ ev. The transverse momenta of the π^\pm produced are assumed to satisfy the law $p_\perp^2 \exp[-(p_\perp/p_0)^2]$ with $p_0 = 1 \cdot 10^8$ ev. The distribution curves were found to be similar for electron-photon and ordinary showers, the densities at axial distances between 10 and 100 m differ by a factor of ~ 100 ; it is concluded that the muon density in photon-induced e.a.sh. will be $\sim 1\%$ of that in ordinary showers with $N \sim 1 \cdot 10^7$ at sea level and distances up to 100 m from the shower axis. An analysis of the relation between the number of recorded showers and that of recorded muons showed that of 126 showers with $4 \cdot 10^6 \leq N \leq 2 \cdot 10^7$ all those which could have been photon-induced were recorded. This indicates a 75% probability that $\alpha < 0.01$. There are 2 figures.

ASSOCIATION: Nauchno-issledovatel'skiy institut yadernoy fiziki
Moskovskogo gos. universiteta im. M. V. Lomonosova
(Scientific Research Institute of Nuclear Physics of
Moscow State University imeni M. V. Lomonosov)

Card 2/2

37551

S/048/62/026/005/015/022
B102/B104

3,2410 (2205, 2705, 2805)

AUTHORS: Belyayeva, I. F., Solov'yeva, V. I., Khrenov, B. A.,
and Khristiansen, G. B.

TITLE: Extensive air showers induced by high-energy photons

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya,
v. 26, no. 5, 1962, 658-660

TEXT: Photon-induced extensive air showers (e.a.sh.) (Nuovo Cimento 17,
625, 1960) must differ from heavy-particle induced e.a.sh. by the number
of penetrating particles. The upper limit of the number of muons N_μ in
a photon-induced e.a.sh. and the spatial muon distribution are
estimated for $E_{\text{phot}} = 10^{10}$ ev and $N = 10^7$ at sea level. The muons are
assumed to be produced in π^+ decay only, the π^+ being the result of photo-
nuclear interaction. Muon pair production is ignored.

$N_\mu(>E) \leq 0.8 \cdot 10^{-3} E_0/E$. The spatial meson distribution at sea level

Card 1/2

The primary cosmic-ray component ...

S/048/62/026/005/014/022
B102/B104

Величина	$H \approx 100 \text{ M}$	$H \approx 250 \text{ M}$	$H \approx 500 \text{ M}$	$H \approx 3 \cdot 10^3 \text{ M}$	$H \approx 10^4 \text{ M}$	$H \approx 5 \cdot 10^4 \text{ M}$	$H \approx 10^5 \text{ M}$	$H \approx 1,7 \cdot 10^6 \text{ M}$
$E_{\pi}, \text{ eV}$	$1,4 \cdot 10^{10}$	$1,8 \cdot 10^{10}$	$3,3 \cdot 10^{10}$	$9,3 \cdot 10^{10}$	$3,3 \cdot 10^{11}$	$6,3 \cdot 10^{11}$	$1,2 \cdot 10^{12}$	$1,7 \cdot 10^{12}$
$n_{\pi} = \frac{3}{W}$	30	15	20	25	75	100	100	90
$n_{\pi_{\text{теор}}}$	9	8	10	16	25	32	36	40

Card 4/4

S/048/62/026/005/014/022
B102/B104

The primary cosmic-ray component ...

shower particles; the number of muons $N_\mu = k_\mu E_0^\alpha$; $\Lambda = 200 \text{ g/cm}^2$,
 $B = 30 \text{ g/cm}^2$ and $\alpha = 0.8 \pm 0.1$. If the primary energy spectrum has the
 shape $AE_0^{-(\beta+1)} dE_0$, at fixed N the N_μ distribution has the shape
 $\frac{1}{N_\mu} \left(\frac{\Lambda+B}{\Lambda} - r - 1 \right) dN_\mu$, Λ being the mean free path with respect to inter-
 action. Comparison between experiment and theory yields $\Lambda = (85 \pm 5) \text{ g/cm}^2$,
 as an upper limit. For charged muons their energies (E_μ) and numbers
 (n_μ) were measured and calculated for several altitudes H ; W is the
 probability for a charged pion produced at H decays without interacting
 with an air nucleus. The results indicate that in $\sim 3\%$ of all cases
 nuclear interaction is accompanied by a production of narrow beams of
 great numbers of charged pions. There are 8 figures.

Card 3/4

S/049/62/026/005/014/022
B102/B104

The primary cosmic-ray component ...

40 m water equivalent. The nuclear-active-particle detectors form a system of 128 ionization chambers (8 m^2) shielded by lead and graphite filters. The number of muons produced in charged-pion decay was estimated (the pions were assumed to be formed in gamma-quantum

photoeffect on nuclei of air atoms): $N_{\mu}^n(E) \leq \frac{E_0}{1.8(1-\alpha)E}$, $\alpha \leq 0.5$, $\alpha_0 < 10^{-3}$; for $E_0 \approx 10^{16} \text{ ev}$ and $E_{\mu} = 10^{10} \text{ ev}$ ($\alpha = 0.5$), $N_{\mu}^n(10^{10}) \leq 10^3$.

The number N_{μ}^n of muons in nuclear showers was measured. For showers with $N = 7 \cdot 10^6$ a mean number of $8 \cdot 10^4$ muons with $E \geq 10^{10} \text{ ev}$ is to be expected. The spatial muon flux distribution was determined for these two types of showers (ξ_{μ}^n and ξ_{μ}^r). In the case of a simple model of air shower production (Suppl. Nuovo Cimento, 2, 649, 1958), an analysis of the experimental data yields $N = k_e E_0 \exp(-x + x_m + x_0)/\Lambda$; E_0 is the energy of the primary particle, x_0 is the depth of its first interaction, $x_m = B \log E_0$ (x - depth of observation), N is the total number of

Card 2/4

3.2410 (2205, 2705, 2805)

31550

S/048/62/026/005/014/022
B102/B104

AUTHORS: Vernov, S. N., Khristiansen, G. B., Belyayeva, I. F.,
Dmitriyev, V. A., Kulikov, G. V., Nechin, Yu. A.,
Solov'yeva, V. I., and Khrenov, B. A.

TITLE: The primary cosmic-ray component at superhigh energies and
some peculiarities of its interaction with nuclei of air
atoms

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya,
v. 26, no. 5, 1962, 651-657

TEXT: The paper is a report on experiments with the Moscow University
large apparatus (area $4 \cdot 10^4 \text{ m}^2$) for comprehensive studies of extensive
air showers induced by high-energy cosmic particles. The charged-particle
detectors (Geiger counters in hodoscope arrangement) cover an area of
 110 m^2 , the muon detectors (2-3 counter layers shielded with lead and iron,
in hodoscope arrangement) more than 12 m^2 , 6.3 m^2 of which are under

Card 1/4

APASHEV, M.D.; MIKHAYLENKO, V.D.; BELYAYEVA, I.F.

Use of a colored grating for the quantitative investigation of
schlieren by the Toepler optical method. Trudy Inst. dvig. no.6:
161-165 '62. (MIRA 16:5)
(Air flow) (Optical measurements)

BEL'YAYEVA, I.D.

Effect of actinomycin on the regeneration of the liver in mice.
Biul. eksp. biol. i med. 59 no.6:91-95 Je 1955.

(MIRA 18:6)

I. Laboratoriya biokhimi i nukleinoovykh kislot (zav. - prof. V.G. Tongur' Instituta biologicheskoy i meditsinskoy khimii (zav. - deystvitel'nyy chlen AMN SSSR prof. V.Y. Izrael'skiy) AMN SSSR, Moskva.

BELYAYEVA, T.D.

Sensitivity of different interphase periods to the injury of RNA
synthesis caused by aurantin. Dokl. AN SSSR 161 no.5:1205-1207
Ap '65. (MIRA 18:5)

1. Institut biologicheskoy i meditsinskoy khimii AMN SSSR.
Submitted June 30, 1964.

BELYAYEVA, I.D.

Some characteristics of the development of veins of the brain surface.
Dokl. AN SSSR 140 no.2:507-509 S '61. (MIRA 14:9)

1. Predstavleno akademikom I.I.Shmal'gauzenom.
(BRAIN--BLOOD VESSELS) (FETUS)

L 6467-66

ACCESSION NR: AP5019819

which might appear if the fuel-element cladding is not hermetically sealed, were observed. The intensities of fallout of long-lived radioactive isotopes (total β activity and Sr^{90}) were the same near the reactor as in other control points, and were governed by global fallout conditions. The maximum γ -ray dose intensity was registered at distances 400 meters from the reactor chimney axis and amounted to 380 microrad/hr. Even under the worse conditions the limit of the maximum permissible dose (50 mber/yr) was about 1 km from the reactor on the windward side. The actual dose was much less. The authors reason that under the most stringent conditions, the permissible hourly dose intensity must not be exceeded in the guarded safety zone around the reactor, and point out that in the case of the VVR-M reactor the limit of hourly maximum dose intensity extends over distances 3--4 times larger than the limit of the maximum annual dose, and that future reactor designs must take this circumstance into account. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 20Jul64

NR REF SOV: 005

ENCL: 00

OTHER: 000

SUB CODE: NP

nw

Card 2/2

L 6467-66 EWT(m)/EPF(c)/ETC/EPF(n)-2/EWG(m) WW/DM
ACCESSION NR: AP5019819

UR/0089/65/019/001/0086/0089
621.039.58

AUTHOR: Ramzayev, P. V.; Belvayeva, I. A.; Gus'kova, V. N.; Ibatullin, M. S.;
Konstantinov, Yu. O.; Nikolayev, S. P.; Oreshina, A. F.

TITLE: Radiation conditions near the VVR-M nuclear reactor

SOURCE: Atomnaya energiya, v. 19, no. 1, 1965, 86-89

TOPIC TAGS: argon, atmospheric contamination, radiation dosimetry, radiation hazard, radiation protection, Gamma background, radioactive waste disposal

ABSTRACT: The article deals with the determination of the concentration of radioactive waste in the atmosphere near research reactors. It is shown first that if the fuel-element cladding is hermetically sealed and the aerosols are effectively trapped, the radioactivity in the surrounding air is due for the most part to Ar^{41} (disregarding the very slight oxygen activity). The chemical inertness of the argon prevents its accumulation in the organism, its dangerous effects are due to its external γ radiation. This, on the other hand, facilitates its monitoring and prevention of harm to the population. The authors have measured the radioactive contamination of the air around the VVR-M reactor operating at 10 MW power, over an area of a 20-km radius around the reactor. No radioactive fission products,

Card 1/2

0901 1441

USSR/Virology. Bacteria Viruses (Phage).

E

Abs Jour: Ref Zhur-Diol., No 17, 1958, 76423.

tion of the medium. Decrease of the crystals did not take place during use of DPM for obtaining phage with the content of the amino nitrogen not more than 50-60 ng%, or the Cottinger broth with amino nitrogen to 170 ng%. With the utilization of a lytic broth, the alkalizing should produce NaOH, which prevents the decrease of crystals independently from the water used and from certain fluctuations in the content of amino nitrogen (21-61 ng%).

Card : 2/2

USSR/Virology. Bacteria Viruses (Phage).

E

Abs Jour: Ref Zhur-Biol., No 17, 1958, 76423.

Author : Delyayeva, I.A.; Mukhina, Z.S.

Inst :

Title : The Formation of Crystals in Preparations of Cholera Bacteriophage.

Orig Pub: Tr. Khar'kovsk. n.-i. in-ta vaksii i syvorotok, 1957, 24, 251-259.

Abstract: In the phagocytolysis of cholera vibrio during storage, the appearance of ammoniac-magnesium crystals of phosphoric acid were observed 2-3 weeks later after preparation. It was shown that the formation of these crystals depends on the content of amino nitrogen in the nutrient medium, and on the alkali used for the prepara-

Card : 1/2

Country : USSR
Category: Virology. Bacterial. Viruses (Phages)

E

Abs Jour: Ref Zhur-Biol., No 23, 1958, No 103509

Author : Belyayeva, I. A.; Mukhina, Z. S.

Inst :

Title : Study of the Activity and Stability of the
Commercial Series of Cholera Bacteriophage

Orig Pub: Sb. Bakteriofagiya. Tbilisi, Gruzmedgiz, 1957,
333-336.

Abstract: Study of 48 series of cholera phage prepared in
different years showed that keeping them under
refrigerator conditions for 18-23-25 months did
not notably change their titer, range of lytic action
or rapidity of the occurrence of the secondary growth.
Ya. I. Rautenshteyn.

Card : 1/1

BELYAYEVA, I.A.

USSR/Virology - Bacterial Virus (Phages)

D-1

Abs Jour : Ref Zhur - Biologiya, No 7, 10 April 1957, 26072

Author : Belyayeva, I.A.

Inst : Kharkov Research Institute for Vaccines and Serums

Title : The Relation of Lytic Activity in Dysenteric Bacterio-
Phagolysates to Agar Agar Concentration in a Nutritive
Medium.

Orig Pub : Sb. tr. Kharovsk. n.-i. in-ta vaktsin i syvorotok, 1955,
22, 83-87

Abst : Studies of titers (following Appelmann) were made on po-
lyvalent dysenteric bacteriophage in media with agar
concentrations of 0.1 - 2.5%. Phage titers increased
from 10^{-8} - 10^{-9} to 10^{-9} - 10^{-10} as agar concentration
was increased to 0.3 - 1.2%. As concentration was in-
creased further, titers fell again to 10^{-3} - $10^{-8.5}$.

Card 1/1

KON'KOVA, V.A.; AFANAS'YEVA, G.F.; KALYAINA, M.S.; BELYAYEVA, G.S.

Reaction of nitroolefins with barbituric acid. Zhur.prakl.khim.
37 no.7:1637 J1 '64. (MIRA 18:4)


MINTS, R.S. (Moskva); BELYAYEVA, G.F. (Moskva); MALKOV, Yu.S. (Moskva)

Investigating the high-temperature strength of alloys in the system
 $\text{Ni}_3\text{Al} - \text{Ni}_3\text{Nb}$. Izv. AN SSSR. Otd. tekhn. nauk. Met. i gor. delo
no.4s151-153 JI-Ag '63. (MIRA 16:10)

Corrosiveness of fuels...

29042
S/081/61/000/018/022/027
B101/B147

This is explained by the considerably higher corrosiveness of low-molecular mercaptans contained in the 60 - 130°C fraction of T-2 fuel. The principal cause of the formation of gelatinous deposits on cadmium-plated parts in the fuels concerned is the moistening of the latter in the presence of mercaptan sulfur. On an increase of the content of the latter to $>0.01\%$ in the fuel, the amount of deposits increases significantly. Chromate passivation of cadmium-plated parts raises their resistance to the corrosive action of mercaptans, and altogether prevents deposits from forming in TS-1 and T-2 fuels containing $\leq 0.01\%$ of mercaptan sulfur. As cadmium-plated parts of fuel pumps are most responsive to the action of mercaptans, the content of mercaptan sulfur in TS-1 and T-2 fuels should be $\leq 0.01\%$. [Abstracter's note: Complete translation.]



Card 2/2

29042
S/081/61/000/018/022/027
B101/B147

11.0132

AUTHORS: Bespolov, I. Ye., Pletneva, O. V., Kolotushkina, Ye. V.,
Belyayeva, G. P., Malysheva, M. S.

TITLE: Corrosiveness of fuels produced from sulfurous petroleums

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 18, 1961, 439, abstract
18M187 (Sb. "Khimiya seraorgan. soyedineniy,
soderzhashchikhsya v neft'yakh i nefteproduktakh", M.,
AN SSSR, 1959, 276 - 283)

TEXT: The corrosiveness of the fuels TC-1 (TS-1) and T-2 (T-2) was
examined. They contained 0.002 - 0.05% of mercaptan sulfur. It was found
that the corrosion of copper and bronze BB-24 (VB-24) in fuels obtained
from sulfurous petroleums is chiefly due to the presence of mercaptans.
Fuels containing no mercaptans hardly corrode these metals. The presence
of elementary sulfur of up to 0.002% in mercaptan-containing TS-1 fuel,
while not increasing the corrosiveness of the latter toward VB-24 bronze,
increases it markedly toward copper. T-2 fuel, which has a wide frac-
tional composition, corrodes copper more strongly than does TS-1 fuel.

Card 1/2

G. P. BELYAYEV

21(4) **PHASE I BOOK EXPLANATIONS** 507/5075
 Akademiyе nauk SSSR. Mashinostroyeniye, Ufa
 Khimiyе sverkhmolekulyarnykh soedineniy, soderzhashchikh v neftyakh i
 serpyshchikh [serpyshchikh i neftyakh] (Chemistry of Sulphur
 Organic Compounds Contained in Petroleum and Petroleum Products; [Papers of the
 Third Scientific Session]) Moscow, Izd-vo AN SSSR, 1959. 376 p.
 2,000 copies printed. Errata slip inserted.

Editorial Board: S.D. Chelintsev (Resp. Ed.), Doctor of Chemical Sciences;
 A.N. Galimov, Doctor of Chemical Sciences; Ya. B. Chertkov, Doctor of Technical
 Sciences; V.V. Pavov, Candidate of Technical Sciences; and V.P. Poroshnevskiy,
 Candidate of Chemical Sciences; Ed. of Publishing House: I.I. Krasov
 Tech. Ed.: T.P. Polunova.

PREFACE. This book is intended for chemists, chemical engineers, and technicians
 specializing in the chemistry of petroleum.
CONTENT. The book is a collection of papers presented at the Third Scientific
 Session on the Chemistry of Organic Sulphur- and Nitrogen Compounds Contained
 in Petroleum and Petroleum Products. The scientific session was held in Ufa,
 June 2-6, 1957. The book consists of six sections: 1) Synthesis, character-
 ization, and analysis of organic sulfur compounds; 2) Properties, and
 composition of organic sulfur compounds; 3) Methods of extraction and
 purification of organic sulfur compounds; 4) Methods of synthesis of organic sulfur
 compounds; 5) Uses of organic sulfur compounds by thermal catalysis;
 6) Physiological properties of organic sulfur compounds and hydrogen
 sulfide; 7) Physiological properties of organic sulfur compounds. So personnel-
 ties are mentioned. There are 135 references, of which 119 are Soviet,
 115 English, 5 French, 12 German, and 1 Czech.

TABLE OF CONTENTS

From the Editorial Staff

Introduction

Card 240

Chemistry of Sulphur Organic Compounds (Cont.)

507/5075

PART IV. CORROSIVE ACTIVITY AND TAR FORMATION OF
SULFUR-CONTAINING PETROLEUM AND PETROLEUM PRODUCTS

Zakharovskiy, L.P., S.M. Vol'fon. Corrosive Properties of Sulfur- containing Petroleum	269
Isopelov, I.Ye., O.V. Plekneva, Ye.V. Kolomashkina, G.P. Belyayeva, M.S. Malyshova. Corrosive Effect of Peels Derived from Sulfur- containing Petroleum	275
Chertkov, Ye.B., V.M. Zvelov, V.M. Shchedin. Organic Sulfur Compounds in Peels as Inhibitors in the Corrosion of Copper and Its Alloys	284
Pechkov, N.G., V.M. Garryukhin. Methods of Controlling the Wear of Machines Due to Corrosion Caused by Use of Diesel Peels With a High Sulfur Content	289

Card 8/10

ACCESSION NR: AP4020517

ASSOCIATION: Laboratoriya polimerizatsionny*kh protsessov Armniikhimproyekta
(Laboratory of Polymerization Processes, Armniikhimproyekta)

SUBMITTED: 09Mar63

DATE ACQ: 31Mar64

ENCL: 00

SUB CODE: CH

NO REF SOV: 001

OTHER: 004

Card 2/2

ACCESSION NR: AP4020517

S/0171/64/017/001/0103/0106

AUTHOR: Akopyan, A. Ye; Ordyan, M. B.; Elmekdzhyan, S. P.; Balyasva, G. M.

TITLE: Nitration of polyvinyl alcohol

SOURCE: AN ArmSSR. Izv. Khimicheskiye nauki, v. 17, no.1, 1964, 103-106

TOPIC TAGS: nitration, polyvinyl alcohol, polymerization degree, sulfuric acid, polyvinyl nitrate, nitric acid

ABSTRACT: The nitration of polyvinyl alcohol was studied for the purpose of developing optimum yield and safety conditions. Two specimens of polyvinyl alcohol were used with molecular weights of 925 and 1275 respectively. The presence of sulfuric acid (1-10%) in the nitrating compositions suppresses oxidation and permits an increased yield. The optimum conditions of nitration which were determined are: a) ratio of polyvinyl alcohol and nitrating compositions is 1:25; b) duration of nitration is 60 minutes; c) processing temperature is from -5 to 10C; and d) ratio of reaction mixture and water for precipitation of polyvinyl nitrate is 1:0.5. Orig. art. has: 3 tables

Card 1/2

AKOPYAN, A.Ye.; ORDYAN, M.B.; EKMEKDZHYAN, S.P.; BELYAYEVA, G.M.

Preparation of hexyl alcohols. Izv. AN Arm.SSR. Khim.nauki. 16 no.3:
241-245 '63. (MIRA 17:2)

1. Laboratoriya polimerizatsionnykh protsessov Armnikhimproyekta.

L 12865-53 EPT(e)/EWT(m)/RDS Pr-4 RM/WW
 ACCESSION NO: AP3002635 S/0171/63/016/003/0241/0245 60

AUTHOR: Akopyan, A. Ye.; Ordyan, M. B.; Ekmekdzhyan, S. P.; Bel'ayeva, G. M.

TITLE: Production of hexyl alcohols

SOURCE: AN ArmSSR. Izv. Khimicheskoye nauki, v. 16, no. 3, 1963, 241-245

TOPIC TAGS: chlorohexadienol hydrogenation, Raney nickel, normal alcohol, secondary hexyl alcohol, normal hexanol

ABSTRACT: The hydrogenation of chlorohexadienol in the presence of Raney nickel to form normal and secondary hexyl alcohols was investigated with respect to effects of pressure (2-10 atm.), temperature (25-500), and hydrogenation medium (hexanol, methanol). Optimum conditions for obtaining normal hexanol in almost 94% yield were: use of 1% by weight of product of Raney nickel at 250 and 10 atm. in hexanol with 1 : 1 ratio of solvent to chlorohexadienol.

ASSOCIATION: Laboratoriya polimerizatsionnykh protsessov Armniikhimproyekta (Laboratory of Polymerization Processes, Armniikhimproyekt)

SUBMITTED: 09Mar63

DATE ACQ: 12Jul63

ENCL: 00

SUB CODE: 00

NO REF SOV: 007

OTHER: 013

Card 1/1

BORISENOK, I.T.; GENEROZOV, M.N.; YEREMEYEV, N.V.; KARAMYSHKIN,
V.V.; KUZOVKOV, N.T.; BORISENOK, I.T.; KULIKOVSKAYA, N.V.;
SAVINOV, G.I., kand.fiz.-mat. nauk, dots. [deceased];
PIROGOV, I.Z.; Prinimali uchastiye: BALAYEVA, I.A.; BALAKIN,
B.M.; BELYAYEVA, G.M.; BELYAKOV, V.I.; VELERSHTEYN, R.A.;
ZHARKOV, G.M.; KOROLEVA, V.Ye.; LITVIN-SEDOY, M.Z.; POPOV,
A.I.; PRIVALOV, V.A.; STUKALOVA, L.M.; CHISTYAKOV, A.I.;
SAVVIN, A.B., red.; CHISTYAKOVA, K.S., tekhn. red.

[Laboratory work in theoretical and applied mechanics] Labo-
ratornyi praktikum po obshchei i prikladnoi mekhanike. Mo-
skva, Izd-vo mosk. univ. 1963. 233 p. (MIRA 16:12)

1. Kafedra prikladnoy mekhaniki Moskovskogo gosudarstvennogo
universiteta (for Balayeva, Balakin, Belyayeva, Belyakov,
Velershteyn, Zharkov, Koroleva, Litvin-Sedoy, Popov, Privalov,
Stukalova, Chistyakov).

(Mechanics--Laboratory manuals)

KHUTORYANSKIY, M., kand.tekhn.nauk; BELYAYEVA, G.^M, kand.tekhn.nauk

Expanded perlite for concretes and mortars. Stroil arkhit.
8 no.6:30-31 Je '60. (MIRA 13:6)
(Perlite (Mineral)) (Lightweight concrete)

BELYAYEVA, G.M., kand. tekhn. nauk

Increasing strength and durability of adhesion of mortars to
ceramic materials. Nov. v proizv. stroi. mat. no.1:22-46 '59.
(MIRA 12:12)

(Mortar) (Ceramics) (Adhesion)

BELYAYEVA, G.M.

Compound mortar to be used in tile lining or plastering of heated surfaces. [Suggested by G.M. Beliaeva]. Rats. i izobr. predl. v stroi. no. 4:71-72 '57. (MIRA 11:8)

1. Nauchno-issledovatel'skiy institut stroitel'nykh materialov
Akademii stroitel'stva i arkhitektury USSR, Kiyev, Bol'shaya
Zhitomirskaya ul., d.9.
(Mortar)

BELYAYEVA, G. M.

SOV/124-58-4-4528

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 4, p 122 (USSR)

AUTHOR: Belyayeva, G. M.

TITLE: Application of the Perturbation Theory to the Problem of the Vibrations of a Beam (Prilozheniye teorii vozmushcheniy k zadache o kolebaniyakh balki)

PERIODICAL: Vestn. Mosk. un-ta Ser. matem., mekhan., astron., fiz., khimii, 1957, Nr 1, pp 11-21

ABSTRACT: The problem of the transverse vibrations of a weightless beam with concentrated masses is analyzed by the perturbation-theory method. A beam with equidistant identical masses is taken as fundamental. The rapid convergence of the method is demonstrated.

1. Beams--Vibration 2. Perturbation V. L. Biderman
theory--Applications

Card 1/1

BELYAYEVA, G.M., inzhener.

Improving the quality of mortars used for coating and plastering.
Nov.v stroi.tekh. no.8:29-50 '56. (MLRA 9:11)
. (Mortar--Testing)

BELYAYEVA, G.M., inzhener; MINTSKOVSKIY, M.Sh., kandidat tekhnicheskikh nauk, redaktor; KLINDUKH, A.M., kandidat tekhnicheskikh nauk, redaktor; ANDRUSHCHENKO, V., redaktor; BERBENETS, P., tekhnicheskii redaktor

[Provisional specifications for the use of ceramic facings on the facades of buildings] Vremennye ukazaniia po primeneniiu keramicheskoi oblitsovki dlia fasadov zdani. Kiev, Gos. izd-vo lit-ry po stroit. i arkhitekt. USSR, 1956. 46 p. (MLRA 10:5)

1. Ukraine. Gosudarstvennyi komitet po delam stroitel'stva i arkhitektury.
(Ceramics) (Facades)

BELIAYEVA, G. M.

BELIAYEVA, G. M.: "Applications of the theory of disturbance to the problems of the oscillations of a beam." Moscow State University M. V. Lomonosov. Moscow, 1956. (DISSERTATION FOR THE DEGREE OF CANDIDATE IN PHYSICOMATHEMATICAL SCIENCES)

Knizhnaya letopis'
No 35, 1956. Moscow

S/024/59/000/06/015/028
E023/E235

AUTHORS: Belyaeva, G. M., and Kuzovkov, N. T. (Moscow)

TITLE: Transients in a Linear System Having a Pure Delay

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye
tekhnicheskikh nauk, Energetika i avtomatika, 1959,
Nr 6, pp 127-133 (USSR)

ABSTRACT: Kasters and Moore's method of logarithmic frequency characteristics is used to find the roots of the transcendental equation describing the system; the paper is an extension of the one by N. T. Kuzovkov (Nr 5, 1959). Some examples of transients are given to illustrate the method. There are 7 figures and 6 Soviet references.

SUBMITTED: July 23, 1959

Card 1/1



BELYAYEVA, G. L.

Annual Session of the Scientific Council of the Central Aero-
logical Observatory. Meteor. i gidrol. no. 4: 73 Ap '62.
(MIRA 15:5)
(Meteorological research)

BELYAYEVA, G.L.

Final session of the Scientific Council of the Central Aerological
Observatory. Meteor. i gidrol. no.6:66 Je '61. (MIRA 14:5)
(Meteorological research)

General session of the ...

S/050/61/000/006/001/001
D231/D304

velopment of devices and the perfecting of methods of atmospheric probing by rockets; theoretical and experimental work in the field of active cloud and fog reactions; routine scientific work in the field of aerology. Discussion resulted from papers by N.Z. Pinus -- The study of turbulence and wind structure in the upper atmosphere; V.V. Kostarev -- The possibility of using radiolocational methods for determining the boundaries and water-content of clouds; S.M. Shmeter -- The study of the physico-meteorological peculiarities of cumulonimbus clouds and turbulence in clouds of the upper troposphere; I.A. Klemin -- The seasonal movement of wind in the stratosphere; P.F. Zaychikov -- The investigation of radiation errors in the A-22 and RKZ radioprobes.

Card 2/2

S/050/61/000/006/001/001
D231/D304

AUTHOR: Belyayeva, G.L.

TITLE: General session of the scientific council of the
central aerological observatory

PERIODICAL: Meteorologiya i gidrologiya, no. 6, 1961, 66

TEXT: The session of the Scientific Council took place from February 8 through 10, 1961, and was devoted to the results of work performed during 1960. 14 papers on various problems of atmospheric physics were heard at the session. Representatives of 18 organizations of the Glavnoye upravleniye gidrometeorologicheskoy sluzhby (Central Board of the Hydrometeorological Service) and other departments took part in the work of the session. The papers were devoted to: The study of turbulence at altitudes of 6 - 10 km; the physics of clouds of the upper layer; radiolocational methods of investigating clouds and movements in the troposphere; the de-

Card 1/2

ACC NR: AP6036115

was determined as the average of three results. In all cases, the surface of the samples was covered with a film. The solidified salt melt was analyzed for its content of Ni, Cr, Al, Mn, and Fe. The analytical results are shown in a table. Based on the experimental data, the following conclusions were drawn: 1) in the temperature interval 600-800° there is formed on the surface of nickel chromium alloys a film composed of the solid products of corrosion; this film is of the spinel type and for Alloy EI-559A has a structure close to $\text{Ni}(\text{Fe}_x\text{Cr}_y)_2\text{O}_4$, and for Alloy EI-437B close to NiCr_2O_4 ; 2) at 600°, the alloys are covered with a dense single zone oxide film and the corrosion is controlled by the diffusion of the reagents through this film, in accordance with a parabolic law. The protective properties of this film are greater for Alloy EI-537B than for Alloy EI-559A; 3) at a temperature of about 800°, the corrosion rates of the alloys draw close together, as a result of the similar structure and composition of the oxide films under these conditions. Orig. art. has: 4 figures and 3 tables.

SUB CODE: 07, 11/ SUEN DATE: 09Nov65/ ORIG REF: 006/ OTH REF: 001

Card 2/2

ACC NR: AP6036115

SOURCE CODE: UR/0365/66/002/006/0700/0704

AUTHOR: Ozeryanaya, I. N.; Manukhina, T. I.; Belyayeva, G. I.; Burakova, E. A.; Smirnov, M. V.

ORG: Academy of Sciences SSSR, Ural Branch, Institute for Electrochemistry (Akademiya nauk SSSR, Ural'skiy filial, Institut elektrokhimii)

TITLE: Behavior of chromium nickel alloys in carbonate melts

SOURCE: Zashchita metallov, v. 2, no. 6, 1966, 700-704

TOPIC TAGS: chromium containing alloy, nickel containing alloy, corrosion rate, lithium compound, sodium compound

ABSTRACT: The experiments were carried out in a low melting binary eutectic mixture of lithium and sodium carbonates (melting point 497°). To suppress thermal decomposition and possible hydrolysis of the carbonates, the salts were melted in an atmosphere of carbon dioxide gas. The alloys investigated, EI-559A and EI-437B, are solid solutions in nickel of the following elements: EI-559A--18% Cr; 23% Fe; 3.5% Al; other elements about 1%: EI-437B--22% Cr; 4% Fe; 2.5% Ti; about 1% Al. Samples of the alloys, in the form of plates with a polished surface area of 8 cm^2 , were placed in an alundum crucible with the melt. After the experiment, the samples were washed of traces of salts in distilled water, and dried to constant weight. The weight increase

Cord 1/2

UDC: 620.193.43

ACC NR: AT7005248

AUTHOR: Belyayeva, G. I.; Anfinogenov, A. I.; Solomatin, V. Ye; Ilyushchenko, N. G.

SOURCE CODE: UR/2631/66/000/008/0079/0084

ORG: none

TITLE: On the structure and properties of an electrolytic aluminum coating on molybdenum

SOURCE: AN SSSR. Ural'skiy filial. Institut elektrokhimii. Trudy, no. 8, 1966. Elektrokhiymiya rasplavlennykh solevykh i tverdykh elektrolitov; fiziko-khimicheskiye svoystva elektrolitov i elektrodnyye protsessy (Electrochemistry of fused salts and solid electrolytes; physicochemical properties of electrolytes and electrode processes), 79-84

TOPIC TAGS: metal plating, molybdenum, metal coating

ABSTRACT: Aluminum coatings deposited on molybdenum by electrolyzing a fused electrolyte of the composition (wt. %) BaCl_2 73, NaF 11.5, AlF_3 15.5 were studied by metallographic and x-ray structural analyses, by measuring the polarization of the molybdenum cathode, and by determining the high-temperature strength and oxidation resistance. The phase composition of the Al coating was studied as a function of the electrolysis conditions (current density and time). Electrolytic saturation of the molybdenum surface with aluminum was found to lead to the formation of two- and three-layer coatings, depending upon the electrolysis conditions. To protect molybdenum from high-temperature oxidation, an aluminum coating of the composition Al , MoAl_{12} .

Card 1/2

Card 2/2

ACC NR: AR6035432

- 0.15 a/dm². Up to thirty minutes are required to produce a coating of 50 μ thickness. [Translation of abstract]

SUB CODE: 13, 07

Card 2/2

ACC NR: AN6035432

SOURCE CODE: UR/0276/66/000/008/1064/1065

AUTHOR: Belyayeva, G. I.; Anfinogenov, A. I.; Solomatin, V. Ye, Ilyushchenko, N. G.

TITLE: Structure and properties of an electrolytic aluminum coating on molybdenum

SOURCE: Ref. zh. Tekhnologiya mashinostroyeniya, Abs. 8B410

REF SOURCE: Tr. In-ta elektrokhimii. Ural'skiy fil. AN SSSR, vyp. 8, 1966, 79-84

TOPIC TAGS: molybdenum, electrolytic deposition, aluminum plating, metal coating, surface hardness

ABSTRACT: The authors present results of investigations of the structure and properties of aluminum coatings on molybdenum, produced by electrolysis of molten salts. For the alitration of the molybdenum (sintered rod), an electrolyte was used with composition (% by weight) BaCl_2 73, NaF 11.5, AlF_3 15.5. The surface of the sample was polished before the alitration. The structure and the composition of the obtained coating were investigated metallographically and by x ray structure methods. The microhardness distribution over the depth of the coating was measured with a PMT-3 instrument with a 20 gram load. The tests for heat endurance were made at 1200° in air. It is shown that the electrolytic saturation of the molybdenum surface with aluminum leads to formation of two- and three-layer coatings, depending on the electrolysis conditions; to protect the molybdenum against the high-temperature oxidation, aluminum coatings with compositions Al , MoAl_{12} , and Mo_6Al_8 are recommended; a coating of a given composition can be obtained at a temperature of 900° , current density 0.1

Card 1/2

UDC: 621.357.7: 669.718

OZERYANAYA, I.N.; STEPANOV, G.K.; MANUKHINA, T.I.; BELYAYEVA, G.I.

Behavior of EIA-1, EI-559A, EI-435, and EI-437B alloys in fused carbonates. Trudy Inst. elektrokhim. UFAN SSSR no.5:79-87 '64.
(MIRA 18:2)

ANFINOGENOV, A.I.; BELYAYEVA, G.I.; SMIRNOV, M.V.; ILYUSHCHENKO, N.G.

Structure and phase composition of beryllium coating on
copper obtained by the electrolysis of fused salts. Trudy
Inst. elektrokhim. UFAN SSSR no. 4:55-66 '63. (MIRA 17.6)

1 83949-65
ACCESSION NO: AFS 03124

ASSOCIATION none

SUBMITTED: 1934863

NO REF SOV: 006

ENCL: 00

OTHER: 005

SUB CODE: HH

ATD PRESS: 3177

Card 2/2

L 25945-65 GPN(m) 2/2572(m)/2572(m)/2572(m) En-4 10P(c) 3D/38
ACCRUSTON PR: 42 003124 6/0000/65/038/001/0197/0201

AUTHOR: Shchetnikov, Ye. N.; Balyayeva, G. I.; Ilyushchenko, N. G.
Shchetnikova, I. I.

TITLE: Electrolytic siliconizing of molybdenum in fused salt electrolyte

SOURCE: Zhurnal prikladnoy khimii, v. 38, no. 1, 1965, 197-201

TOPIC TAGS: molybdenum, molybdenum siliconizing, electrolytic siliconizing, fused salt electrolyte

ABSTRACT: A study of electrolytic deposition of silicon on molybdenum for protecting the latter against oxidation has been made. A dense and smooth 10-μ thick MoSi₃ coating was obtained from a fused-salt electrolyte consisting of 33% Na₂SiO₃ and 67% NaF, at 1100°C and 0.3 amp/cm² current density, in 4-6 hr. The coating protects molybdenum from oxidation at 1600°C for 7-10 hr, during which time the thickness of the coating increases almost 1.5 times and the composition changes to Mo₂Si₃. Orig. art. has: 7 figures. (ND)

Card 1/2

ACCESSION NR: AT4008733

in Figs. 1, 2, 3 and 4 in the Enclosure indicate that cathode deposition of Be on Cu is accompanied by the formation of deposits consisting of one or more phases. Structure of the deposits is determined by current density, temperature and duration of the electrolytic process. It was also demonstrated that such conditions of the process promote the most rapid formation and accumulation of the β -phase. Microstructure of the BeCu coating is shown on several microphotographs for the α , β and γ phases. G. V. Burov, staff member of the Institute, performed the structural x-ray analysis. G. V. Chentsovaya and L. P. Tomilovaya, other members of the Institute, performed the spectral analysis. Orig. art. has: 2 tables, 4 graphs, 7 illustrations.

ASSOCIATION: Institut Elektrokhemii, Ural'skiy filial AN SSSR (Institute of Electrochemistry, Ural branch AN SSSR)

SUBMITTED: 00

DATE ACQ: 25Jan64

ENCL: 06

SUB CODE: ML, MA

NO REF SOV: 011

OTHER: 002

Card 2/02